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Tan-Mullins, May

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Dancing to China's Tune: Understanding the Impacts of a Rising China through the Political-Ecology Framework

May Tan-Mullins

> China has become a great power and it is time for us to take centre stage in the world. (President Xi Jinping, 18 October 2017)

President Xi Jinping announced the above at the 19th Communist Party Congress as an affirmation that China had "arrived" as a great power in the world. With a population of 1.3 billion, China became the world's second-largest economy and contributed 39 per cent to world growth in 2016, according to the International Monetary Fund (World Economic Forum 2017a). China is the largest investor in renewable energy, having invested more than USD 100 billion in 2015 (World Economic Forum 2017b). China also spearheaded the establishment of the Asian Infrastructure Investment Bank (AIIB), a global financing institution with 57 member countries, including developed countries such as the United Kingdom and Germany. With China's increasing economic and diplomatic presences in the world, coupled with its directive of "Going Out," which was intensified by the recent Belt Road Initiative (BRI), China's rise will inevitably impact the world in terms of competition for resources, market share, and political influence. In particular, China's insatiable appetite for natural resources to fuel its domestic growth and satisfy its energy needs has left an unparalleled and deepening footprint on the world's environment (Liu and Diamond 2005; Mol 2011).

In the first decade of the 2000s, shortages of domestic commodities and global oil-price spikes have led China to increasingly turn to resource-rich regions such as Africa. In addition, some of China's global investments are concentrated in sectors that are environmentally sensitive, such as oil and gas exploration and global hydropower provision. Furthermore, the behaviours of these Chinese enterprises have fallen short of global expectations at times, especially in areas of social responsibility and environmental protection (Weng and Buckley 2016). Moreover, some commentators and activists are concerned that China's loans and engagement with some regions of the world appear to have no conditions attached and therefore undermine the

good work of Western donors around governance, human rights, and environmental protection (Naim 2007). However, more recent data shows a more varied picture with a range of winners and losers (Bräutigam 2011; Power, Mohan, and Tan-Mullins 2012; Tan-Mullins and Mohan 2013). Following a raft of measures from multilateral development banks and international financial institutions, along with growing pressure from international organisations, civil society organisations, and local communities, China is now under pressure to demonstrate a commitment to take on the rising global responsibility that comes with being a great power and to enhance its performance in the areas of corporate social responsibility (CSR) and sustainable development in countries of investment (CAITEC, SASAC, and UNDP China 2017).

However, the process of enhancing performance for sustainable investment is challenging, in particular for China, where an overseas investment decision is very much intertwined with political directives, due to its unique socialist market economy and because many of the "Going Out" companies are state-owned enterprises (SOE). Decisions to build hydropower dams or undertake infrastructure projects are at times determined by broader political concerns and bilateral relations, instead of by pure rational economic and profit-oriented decision making. As such, the decisions to invest in a country/project and the associated outcomes are very much governed by political relations, which are usually unequal. In addition, these complex unequal power relations between states at an international level multiply and intensify when filtered down to the national and local levels, due to the increasing number of stakeholders involved in a project. The interests of these various stakeholder groups and the power relations between them further complicate the decision-making process in determining both how an environmental resource would be used in the local context and who the ultimate beneficiaries of these projects will be. Understanding this complex set of international actors, interdependencies, and ecological impacts necessitates a broad theoretical framework (Urban, Mohan, and Cook 2013).

This timely topical issue captures the complexity of transnational impacts of a rising China and the unequal power relations between various stakeholders at the international, national, and local levels. The differing outcomes in local contexts are assessed through four case studies of Chinese investment in the natural-resource and energy

sectors. By adopting the political ecology of a rising China framework, we aim to disaggregate the transnational social, cultural, economic, and environmental impacts of China as a great power. This introductory article will illustrate the background and usefulness of the political-ecology framework in the context of a rising China. It will be followed by a brief discussion on how the various articles in this issue contribute to this theoretical framework and enrich the empirical discussions. The rest of this topical issue will advance the discussion by utilising the political ecology of a rising China approach to evaluate the transnational impacts of a rising China through case studies in hydropower and mineral sectors in Asia and Africa.

The Evolution of Political Ecology

> The economy of nature and the ecology of man are inseparable and attempts to separate them are more than misleading, they are dangerous. Man's destiny is tied to nature's destiny and the arrogance of the engineering mind does not change this. (Bates 1960: 247)

As early as the 1960s, authors such as Bates highlighted the inseparable relationship between humans and their immediate physical environment, as voiced in the above quote from his book *The Forest and the Sea*, published in 1960. In order to fruitfully understand human–environment interactions in large-scale projects, we need to pay equal attention to the human and environmental components with an emphasis on examining the interconnectedness of resources such as water, energy, and food security that these projects provide or remove from the relevant stakeholders. The complexity of these interdependencies requires a new paradigm of approach and an interdisciplinary understanding of both how decisions are being made and how those decisions impact the environment. A natural starting point would be the political-ecology approach, which "combines the concerns of ecology with a broadly defined political economy" (Blaikie and Brookfield 1987: 17). The political ecology framework (Wolf 1972; Greenberg and Park 1994) is an effective framework for analysing the conflicts caused by the varied forms of control over access to natural resources such as water, energy, land, and forests (Bryant and Bailey 1997; Blaikie 1985; Peet and Watts 2004), as it highlights the governance issues and unequal distribution of costs and benefits as-

sociated with environmental change brought on by human intervention. "It is an integrated understanding of how environmental and political forces interact to mediate social and environmental change" (Bryant 1992: 12).

As the phrase implies, political ecology simply looks at how politics determine the use of the environment – be they land, mineral, air, or water resources. Politics looks at the power relations between different actors and is at the heart of this framework (Tan-Mullins 2007). By assessing the unequal power relations between actors, we can explain the uneven distribution of access to and control over environmental resources and the impacts of human actions on the ecology. "Power" here relates to the differential ability to control and/or access the economic benefits of resource exploitation (Bryant 1996, 1997; Peluso 1992; Dauvergne 1994). Bryant and Bailey (1997) developed three fundamental assumptions of the political-ecology framework applicable to developing countries: First, costs and benefits associated with environmental change are distributed unequally. Second, this unequal distribution inevitably either reinforces or reduces existing social and economic inequalities. Third, the unequal distribution of costs and benefits and the reinforcing or reducing of pre-existing inequalities has political implications in terms of the altered power relationships that result. The costs and benefits of such relations would also manifest in the environment, which forms part of the analysis in this framework.

The field of Third World political ecology originated in the early 1970s at a time when human–environment interactions were coming under increasing public and scholarly scrutiny (Bryant and Bailey 1997: 1). It was employed as a way to think about how questions of access to and control over resources are indispensable for understanding both the geography of environmental degradation and the prospects for green and sustainable alternatives (Watts 2000: 259). Simplistic claims about population growth and environmental degradation in the Third World, central to neo-Malthusian beliefs (which see the growing population as the main cause of environmental degradation), came under fire as they failed to understand the political and social aspects of human–environment interactions. In the late 1980s, two geographical monographs that provided the theoretical foundation for the formalisation of political ecology were written by Piers Blaikie (1985), *The Political Economy of Soil Erosion in Developing*

Countries, and Piers Blaikie and Harold Brookfield (1987), *Land Degradation and Society*. These works expanded the political-ecology approach through a demonstration of a more complex understanding of how power relations mediate human–environment interactions by including the social and economic aspects of environmental changes.

Dominant political-ecology scholars, such as Peluso (1992) and Peet and Watts (1996), have shed light on the "micro-politics," enlightening readers on environmental conflicts and cooperation at the local level but providing less information about the wider theoretical and comparative significance of actors involved in local interactions (Bryant 1998: 93). In the late 1980s and early 1990s, "globalisation" became a dominant theme, and it became necessary to link findings on one scale (local) to those on another (provincial, national, and global) in order to facilitate a comprehensive understanding of transnational power relations in a particular context. Hence by the late 1990s and early 2000s, a number of edited books combined papers focusing on different scales (Peet and Watts 1996, 2004; Dearden 2002; Peluso and Watts 2001; Hirsch and Warren 1998; King 1998; Howitt, Connell and Hirsch 1996; Parnwell and Bryant 1996). The above-stated research provided a more complete view of the interrelated local and global factors in determining human–environment interactions.

What Exactly Is Political Ecology?

> All ecological projects (and arguments) are simultaneously political economic projects (and arguments) and vice-versa. Ecological arguments are never socially neutral any more than socio-political arguments are ecologically neutral. Looking more closely at the way ecology and politics interrelate then becomes imperative if we are to get a better handle on how to approach environmental/ecological questions. (Harvey 1993: 25)

As Harvey (1993) states, "Politics is important when approaching environmental or ecological questions." Indeed, in the political-ecology framework, politics is central to the examination of human–environment interactions. The workings of a politicised environment are appreciated in the complex manner in which actors interrelate at the material and discursive level over environmental questions (Bryant and Bailey 1997: 47). Politics are also influential in the strategies

used to present different environmental explanations as legitimate bases for policy (Forsyth 2003: 266). Political ecologists, besides looking at politics, also focus on the economic, social, and cultural aspects of life and the global systems of production.

Many scholars have attempted to conceptualise power either by methods of control (Bryant 1992, 1997, 1998) or through access to the tools of power (such as knowledge and technology). However, such conceptualisations of power cannot be fully understood without understanding the interests of the different actors. The following paragraphs will discuss the four methods of controlling resources as conceptualised by Bryant (1997) – (i) the power to pollute, (ii) the control of social prioritisation of environmental projects, (iii) the indirect discursive control through ideas, and (iv) the control over access to resources (Harvey 1993) – in addition to considering the interests of various stakeholder groups.

The first method of control relates to the power to decide the location of polluting industries and the impacts of such industries on a community. Examining pollution in the Indonesian context, McDowell (1989) and Lucas (1998) illustrated how these industries are able to manifest their power over the environment. On a global scale, the movement of selected "dirty" industries from the First to the Third World also illustrates the power of the First World to pollute developing countries. However, in today's context of rising powers, we have countries such as China that are neither developed nor First World but in a superior economic position to relocate certain polluting industries to other countries (Roberts 2014). Social prioritisation of environmental projects is another method by which an actor can control access to environmental resources. This form of control is usually carried out for the personal benefits of relevant actors and to favour the allocation of financial and human resources to those environmental projects of most interest to said actors (see Hurst 1990; Rush 1991; Dauvergne 1994). For example, in communist China during Mao Zedong's era, his perception of the environment was very much in line with communist ideology, which perceives nature as a production tool for human beings, and as something to be fully exploited and conquered for human use and production purposes. As such, Chairman Mao prioritised large industrialisation projects from 1949 to 1976 and looked to technology to reconfigure nature for the use of man. As such, during his time "mountains were to be moved,

forests cut, dams built, lakes filled up, rivers diverted, wastelands planted, and errant species eliminated" (Branigan 2012).

The third method of control, indirect discursive control of ideas or values, relates to how actors may exert their power. As Schmink and Wood (1987: 51) noted, ideas are never neutral but either reinforce or challenge existing social and economic arrangements. For example, the communist philosophy of using technology to overcome nature has resulted in some of the most environmentally destructive campaigns in China, such as the Four Pests Campaign, a project with good intent but catastrophic consequences for the environment. This method of control illustrates the power of an actor to define a problem, which leads to the question: Who has the power to frame and define the problem? In most cases, it is the state leadership, as it manages both technology, such as in the media, and political ideologies, allowing continuous assertions of these discursive values to become the mainstream discourses. Another example is Forsyth (2003) urging us to question the meta-narratives of what is meant by "ecology." Many social theorists discuss notions of ecology as forms of unproblematised truth, but these notions need to be analysed in order to reveal their hidden politics and applicability to different environmental problems in various contexts (Forsyth 2003: 278). With the Internet being far-reaching and highly accessible to most people, it provides other actors with a much-needed platform for alternative definitions of "ecology."

The primary aim of the last method of control, the control of access to resources, is to monopolise a valued environmental resource, thus controlling the ensuing economic benefits that may be derived from its exploitation (Bryant 1997: 11). Works by Bryant (1992, 1996), Peluso (1992, 1995), Dauvergne (1994), and MacAndrews (1994) illustrate this method of control. As this method results in tight economic and political control of a dominant resource sector by the ruling elite, it leaves little scope for accumulating wealth and status outside of state patronage (Le Billion 2001: 567). Tan-Mullins and Mohan (2012) illustrated how oil development is concentrated in the hands of Angolan elites, which perpetuated an enclavic space of development. Another example is from China, where in recent years the media has run headlines on how private enterprises have engaged in land grabbing from local communities in the name of national development projects. According to a survey by Landesa (2011), almost

half of Chinese villages have lost some or all of their land since the late 1990s. The survey found that in nearly a quarter of those cases, the villagers were not compensated.

The conceptualisation of power can also be examined through access to the tools of power. The accumulation of power by different actors today comes mostly through the possession of knowledge and technology. For example, the Chinese state, through the appropriation of mass media and telecommunication systems, has been able to control the discursive means of knowledge and ideas. The state also uses satellite images to track and to control the access of other actors to the environment. Different resources, such as knowledge and technology, as well as access to information, empower different actors to varying degrees to effect change on the environment. Meanwhile, NGOs, by gaining access to the media, are also able to express their environmental agendas and interests to the public via Chinese social media outlets such as WeChat. Yet, it is important to note that most media operates within the jurisdiction and censorship regulations of the state. The less powerful actors such as NGOs or local leaders may use the same technology as the state, such as social media, to pursue their own economic and political agendas, notably to mount campaigns attacking the practices of powerful actors (Bryant 1997: 13). However, it is difficult to conclude that access to the media is a viable avenue of voicing discontent – due not only to China's infamous "Great Firewall of China" but also to reports being at times biased or slanted towards the government's stance because of fear of being shut down or politically persecuted, measures not uncommonly undertaken in the Chinese Internet and social media sphere.

The physical environment, at times, may serve as an indicator of the amount of power an actor wields. For example, by looking at a physical landscape that was transformed by human–environment interactions, the scale of change inscribed onto the environment illustrates the power of the actors. Patterns of control involving powerful actors may be illustrated by the impact of large-scale economic activities on the landscape such as logging, mining, or cash cropping (Bryant 1998: 83). Specific nodes of control and resistance, such as large hydroelectric dams or industrial plants, can also be used to highlight unequal power relations. Likewise, the less powerful actors may exert their "acts of resistance" towards the more powerful actors through

illegal activities such as illegal logging or small-scale agricultural production.

As indicated earlier, power relations is at the heart of this framework. In order to understand the interplay of power between the various actors and understand why they act the way they do, we need to delve into the personal interests and agendas of these actors. Looking at how different actors manage the control and access to resources will give us insights into the mechanisms of resource access behind the scenes. It will also help us to understand the contention or cooperation for resource allocation as an outcome of different actors pursuing distinct aims and interests (Long and Long 1992). There is thus a need to assume that politics is about the interaction of actors over environmental resources, and that even weak actors possess some power to act in pursuit of their interests. Bryant and Bailey (1997) have broadly categorised "given" groups of actors as (i) the state, (ii) multilateral institutions, (iii) business, (iv) environmental non-governmental organisations, and (v) grassroots actors.

The state derives its power mainly through the legislative process to act in the "national" interest. It tends to play a pivotal role in efforts to resolve problems at the local, regional, and global levels, reflecting its "stewardship" role in society. Yet the primary goal of the world's states since World War II has been to assert political control over the people living in the territory under their jurisdiction, often amidst widespread social unrest. In China, a way to legitimise the power of those in control of a given state has been to pursue economic development for the nation, even if it is at the expense of the environment, through intense extraction of natural resources for export. At the international level, states find cooperation with each other imperative to their attempts to take a global approach to dealing with environmental problems. Yet, little remedial action is taken, as states jealously guard their sovereignty. The 1997/98 forest fires ignited by slash-and-burn practices in Indonesia are a clear illustration of this – as the Association of Southeast Asian Nations (ASEAN) adopted a non-interference policy towards activities in the sovereign space of its member states, these member states could do nothing about the transboundary air pollution except propose preventive methods for the future, which were adopted later by the association.

There are two categories of multilateral institutions: technical institutions (e.g. the Food and Agriculture Organisation – FAO, or the

United Nations' various technical programmes) and international financial institutions (e.g. the International Monetary Fund – IMF, or the World Bank – WB). Political ecologists frequently do not view these international organisations as the solution for the environmental degradation in Third World countries, but rather as part of the problem. This is because these technical organisations often pursue policies through the lens of capitalist development led by states of the global North (especially the United States), and are also guided by their desire to impose on states of the global South "modernised" Western knowledge in aid of "development." The outcome of policies is the intensification and extension of environmental degradation in the global South, as the emphasis is continually centred on the need to introduce modernised technologies to intensify the extraction process. International financial institutions such as the IMF and the WB accumulate their power mainly through the ability to regulate financial resources in terms of loans or aid to Third World countries. Loans for industrial and development projects obtained from the WB often received criticism for their insensitivity towards how these projects affect local communities socially and economically. However, as a result of these criticisms, the AIIB and New Development Bank (NDB), led by China and BRIC (Brazil, Russia, India, and China) countries, were recently established with more focus on the agenda and needs of developing and Third World countries.

At the same time, the above international institutions play an extremely important role in the globalised international economy. As "international governors," these organisations perform the role of "troubleshooters" in times of crisis. It is through such "regional" organisations that states are finding new political, economic, and social realisation in a globalising world. Yet, for many states in the developing world, there is still tension caused by letting go of some aspects of national sovereignty to embrace the globalising processes. Given the stark economic and power disparities of the developed and developing worlds, it is not hard to see why poor, powerless, developing countries are resisting the globalising processes. The anti-globalisation stance of the current president of the United States, Donald Trump, also demonstrates that negative impacts of globalisation are not affecting the developing world exclusively. However, it is also through participation in global governance and processes that global leaders, bureaucrats, and entrepreneurs are engaged in the interactive

acquisition of knowledge and co-create solutions to resolve global challenges.

Businesses, according to Bryant and Bailey (1997: 103), are divided into transnational companies (TNC) and local businesses. The growing power and influence of business today is linked to the development of a global capitalist system; both TNCs and local businesses have played a central role in the development of a politicised environment in the Third World. First World TNCs often ignore environmental regulations, due to their own footloose nature and the desire of states to solicit these TNCs with lax environmental regulations. But these TNCs are gradually realising the need to develop "green" corporate strategies and a green image in their practices worldwide. In China, there are further complexities, as the biggest TNCs are often SOEs. This means the profit-driven nature of private TNCs is muddled by state and political agendas and interests. These companies are also gradually realising the need to develop policies that will help them sustain their investment in the host countries through a sustainable development approach that emphasises green growth.

Another group of stakeholders are non-governmental organisations (NGOs), which play significant roles in championing local communities in Third World countries. The growth of civil society since the 1970s has seen a proliferation of environmental NGOs, known as ENGOs, concerned with environmental security and basic livelihood issues. This proliferation was fuelled by the belief in the declining capacity of the state to provide social, environmental, and livelihood security for its citizens. There are two broad types of ENGOs: First World ENGOs and Third World ENGOs. The main method by which these ENGOs accumulate power is through the possession and championing of a strong "moral" cause for people, as they are perceived as the defenders of values that governments and corporations are all too willing to compromise (Princen 1994: 34-35). The methods by which they exert political influence are lobbying to influence environmental policies and practices of the state, businesses, and multilateral organisations; supporting conservation and development projects proposed and operated by grassroots actors; campaigning through the media; and organising activities at international development and environmental conferences. At times, these First World and Third World ENGOs work together on local projects, usually with

the former providing financial and technical resources while the latter facilitates the local implementation of knowledge. The ability of these ENGOs to operate depends highly on the democratic stage of the state in which they operate, and on whether the state will allow them to campaign for their chosen cause, which may be (in fact, often is) against the state's agenda. In China, NGOs are highly constrained by Chinese regulations and have very little space to manoeuvre in terms of canvassing for policy change. However, international NGOs such as the International River Network (IRN) have better track records in terms of socialising Chinese government institutions and Chinese enterprises to enhance their CSR performance.

Last, and most importantly, come the grassroots actors, who are often considered to be on the losing end of these environmental struggles. This is because many of these struggles involve more immediate impacts on their own environmental and livelihood securities. The development of local institutions beyond the grassroots actors to regulate the latter's use of and access to resources creates a scenario in which those grassroots actors are kept from resources on which they depend for their livelihoods. For example, indigenous knowledge of grassroots actors regarding the resources in the area are disregarded as "unscientific" or "primitive," which leads to them being excluded from the decision-making process. Yet, this exclusion often results in an appalling gap between policy formulation and the practicality of these policies at the local level. To counteract these unequal relationships between grassroots organisations and the state and businesses, local actors often express their discontent through individual acts of everyday resistance, ranging from protests over land grabbing (Branigan 2012) to small acts of vandalism. These acts might seem insignificant, but when multiplied a thousand-fold, they may in the end make utter shambles of the policies suggested by their "superiors" in the capital (Scott 1985). These grassroots groups usually organise themselves into either protest or self-help groups, with the former being more visible, as they accumulate their power through protests that occur in the limelight.

Finally, political ecologists focus on the politics within a certain geographic space (such as a village), juxtaposing that space with counterparts on the national and international level, to examine the dynamism of politics between different actors and assess how these political interactions affect the outcome of resource-access problems and

management at the local level. The intersection of processes across scales rather than the singular dominance of one scale (e.g. global networks versus states or the local communities) are crucial for explaining how decisions are made. Thus, one of the challenges facing political ecologists is to break out of these pre-given, scalar containers (i.e. local, regional, national, and global) in order to examine human–environmental dynamics that occur in other socially produced and ecological scales. The equation is no longer simple, as the interplay between actors is cross-scale and inter-group. The relationships between these actors can no longer be easily classified into binary or triangular models; rather, there is a dynamic fluid interaction between different actor groups from various scales and different actors within these groups at the local level. This issue of scale is also of particular importance because the interconnectedness of the natural geography of the ocean illustrates the difficulties in clearly defining the boundaries of such an environment. As Robbins rightly pointed out,

> the ascent in scales imposes a "chain of command" where players at distantly removed scales (peasants, states, the World Trade Organization) have little interaction. (Robbins 2004: 211)

Zimmerer and Bassett (2003: 288) also similarly indicated that more attention should be given to the spatiality of social life, especially the politics of scale, and to integrating ecological scales into analytical frameworks.

Political Ecology and a Rising China

The political-ecology framework, in general, is an appropriate framework to assess human–environment interactions, human decisions, and humans' impacts on the environment. However, we need to assess what drives and empowers the Chinese stakeholders engaged in large environmental projects globally in order to further refine the theoretical concept of the political ecology of rising China. Understanding a complex set of international actors, interdependencies, and ecological impacts through this framework allows us to investigate the fluid power relations between national and transnational actors, and between politics and ecology. This will better enable us to comprehend the environmental consequences of transnational investment. However, there is a need to focus on the specificity of a rising China and how its role as a rising power affects and influences the

power relations between Chinese actors and others by examining "where the power lies" among the various actors involved and "what empowers" these actors. Furthermore, we need to understand the broader Chinese discourse and rhetoric in the engagement between China and the rest of the world. In many instances, Chinese projects tend to be embedded within the broader Chinese rhetoric of South–South cooperation, non-interference, and being mutually beneficial, whereby the importance of political alliances and solidarity in today's world is emphasised. Deconstructing broader Chinese discourse and rhetoric will further our understanding of the interests of these Chinese stakeholders.

The majority of earlier work on China's engagement with low- and middle-income countries (LMIC) has been speculative (Mohan 2008), economistic (Jacques 2009), and Africa-focused (Alden, Large, and Soares de Oliveira 2008; Bräutigam 2009). Crucially, these studies have largely ignored the environmental consequences of China's internationalisation. In our past works, we infused the political-ecology framework with works on the so-called "Asian drivers" to explain the rise of China and its global, national, and local impacts (Urban et al. 2013; Urban et al. 2015). The Asian drivers framework developed by Humphrey and Messner, Schmitz, and Kaplinsky and Messner assesses China's direct and indirect impacts as a rising power and its channels of interaction with low- and middle-income countries. In each of these channels – aid, trade, investment, global governance, individuals/migrants, and environment – there will be a mixture of complementary and competitive economic impacts, plus positive and negative impacts in relation to society and the environment (Kaplinsky and Messner 2008). We (Urban et al. 2011; Urban et al. 2013; Urban, Mohan, and Cook 2013) discuss these impacts by addressing the relevant motives, actors, and beneficiaries, in addition to analysing how, why, and to what effect Chinese actors engage in low- and middle-income countries (see Table 1).

Large-scale dam development provokes strong emotions because of the uneven distribution of costs and benefits, which in turn focuses attention on the political environment and the actors involved (Bryant and Bailey 1997). This "political ecology of the Asian drivers" framework has enabled scholars such as our team to address how Chinese investment strategies in large hydropower dams are managed vis-à-vis LMICs; their impacts on local social and environmental

conditions in recipient countries; the effects on local and regional governance; and the implications for global hydropower development (Tan-Mullins, Urban, and Mang 2017; Olorunfemi et al. 2017; Siciliano et al. 2016). This framework is highly flexible and proves useful to investigate actors' interests and how they determine the behaviour of actors operating at a variety of scales influencing local interaction with environmental resources. A key advantage of this approach is that it allows for a more complex understanding of the interactions between these actors. However, this approach tends to treat the actors (such as businesses) as monolithic entities (Bury 2008), which is not appropriate in the case of China, and this has become problematic in assessing the power relations that host state agencies have vis-à-vis transnational businesses. The classification of actors into prescribed groups or "containers" is inadequate for a comprehensive understanding of how power shifts and changes, especially when many big transnational Chinese companies are not privatised, but state-owned. This muddles Chinese companies' interests as a stakeholder group, as decisions are at times infused with political directives.

Table 1. Political Ecology of the Asian Drivers Framework

Channel	Motives	Actors	Beneficiaries	Impacts			
				Positive		Negative	
				Direct	Indirect	Direct	Indirect
Trade							
Investment (FDI)							
Aid							
Innovation							
Politics							

Source: Urban, Mohan, and Cook 2013.

The political ecology of a rising China framework also argues the need to focus on the specificity of rising China and how its role as a rising power affects and influences its power relations between Chi-

nese actors and others. The framework hence fills this gap by deconstructing the Chinese hydropower sector by examining "where the power lies" among the various actors involved and "what empowers" these actors. In China, knowledge and technology are not the only factors that determine access to resources; access to capital; factors of production such as labour, land, or boats; markets for the finished products; and political and social capital (see Anderson 1990; Robertson 1996) may also influence the ease, profits, and efficiency of access. According to Le Billion (2001: 567), access to the commodity value chain is often closely linked to social identities, articulated in particular entitlements and horizontal inequalities along lines of ethnicity, class, or religion within the political economy of a resource. Thus, it is important to note that, other than knowledge and technology, access to capital, factors of production, markets, social identities, and informal political power are also important determinants in the process of environmental access. In particular, China's cultural values of *guanxi* and personal relations play a huge role in determining access to and control of resources.

To illustrate the above using the China hydropower sector as an example, many of the Chinese hydropower companies identified are SOEs, and although profit margins are one of the main concerns of transnational companies, business decisions are sometimes made regardless of whether there will be positive returns. Similarly, some profitable dam proposals are halted for political reasons. This is because some of the projects are politically influenced, initiated, and guaranteed by the Chinese government and at times aided with preferential loans. We also found that there is a high level of competition between these Chinese dam builders, and that they act very differently (Tan-Mullins, Urban, and Mang 2017). The main players are Sinohydro (also known as PowerChina), PowerChina Resources Limited (an international subsidiary of Sinohydro), China Huaneng Group (owner of China Huaneng Lancang River Hydropower Group), China Huadian Corporation, Datang International Power Generation Company, China Three Gorges Corporation, China Water International and Electric Corporation (CWE) (subsidiary of China Three Gorges Group), China Southern Power Grid (CSG), China Gezhouba Group Company Limited, China Civil Engineering Construction Corporation (CCECC), China National Electric Engineer-

ing Company (CNEEC), State Power Investment Corporation (CPI), and China National Heavy Machinery Corporation (CHMC).

It was possible in the past to carry out projects with minimal profits, as national policy guidelines overrode profit concerns. However, in recent years, the number of overseas projects has become a prominent assessment criterion for leadership performance, adding a sense of urgency to initiate and complete projects, driven by senior executives seeking to maintain their status amid government SOEs' restructuring initiatives (Tan-Mullins, Urban, and Mang 2017). This means companies have begun to look for ways to improve their profit margins and increase revenues by investing in the global market and cutting costs. Sector reforms in 2003 that involved "privatising" five of China's largest power companies also means companies are now in a better position to capitalise on their competitive advantage, function independently from central-government directives, and focus on profit making (McDonald, Bosshard, and Brewer 2009). The above reforms, coupled with the decreasing number of suitable sites for new mega-dams in China, have led these companies to realise the need to explore external markets. As such, many of these companies, with little or no international market experience, were compelled to explore new regions in the global hydropower industry, such as Africa and Latin America. This also means they are then "confronted with challenges and responsibilities unfamiliar to them in China" (International Rivers 2012: 6).

The existence of numerous stakeholders in a single sector demonstrates the further complicity of categorising actors within a stakeholder group; within this, there will be situations in which one actor acts very differently from the others as a result of varying private interests. Li's (2001) emphasis on agency and concepts of articulation and positioning in terms of how indigenous people identified themselves are similar in this context in terms of practice. Li argued that self-identification of indigenous people draws upon historically sedimented practices, landscapes, and repertoires of meaning, and that this emerges through particular patterns of engagement and struggle, realigning the ways indigenous people connect to the nation and the government. Indeed, categorising and grouping various actors into predetermined groups is a problematic approach in reality, as human agency and positioning present varying agendas and inter-

ests in different contexts and when interacting with different stakeholder groups.

To summarise, the political ecology of the Asian drivers framework is a good starting point for assessing the global impacts of a rising China. However, we need to situate the analysis and contextualise it within the social, cultural, and economic realms of Chinese society. By integrating the Chinese socio-political structures and the evolution and composites of the "Going Out" actors, and by understanding the power structure and relations between the Chinese actors, we are better able to examine and explain the actual effects of a rising China in a holistic and comprehensive manner. By doing so, we will also be able to develop strategies to engage and socialise the numerous Chinese actors into best practices of global governance and investment behaviour.

The Significance of This Topical Issue

This topical issue represents the culmination of two years' commitment and hard work. The team first met at the Development Studies Association's annual conference in September 2016 in Oxford at a roundtable discussing the impacts of a rising China through the lens of a political-ecology framework. In this conference, we came to the conclusion that a comprehensive framework to help us understand the environmental impacts of a rising China was lacking, particularly in an overseas context. We acknowledged the complex socio-political and economic realities of China, and how it is constantly evolving due to its domestic directives and foreign policies. We also agreed that China is rising, with huge potential to be a superpower in the future, and that working with China in realms of global governance would therefore be of great importance. In particular, we see the potential of China to become the leader of global green development, not just in the field of renewable-energy investment, but more crucially, in areas of CSR, embedding green ideology into its "Going Out" actors and translating it into daily practices of sustainable and green investment through Chinese companies. This prompted us to come together to further explore the idea of expanding the political-ecology framework and infusing it with Chinese characteristics.

There are four contributions in this topical issue, two looking at Chinese hydropower projects in Asia, one examining a Chinese water

conservation project in Nigeria, and the last delving into the Chinese investment into Namibia's uranium sector. We made a conscientious effort to ensure and celebrate the diversity of the contributors for this topical issue, with authors coming from different regions and backgrounds. By adopting a case-study approach, this topical issue capitalises on four different examples to enrich the empirical dataset, tease out the common themes, and compare and contrast issues and challenges that different stakeholders encounter in the course of experiencing a rising China. This topical issue further hones the political ecology of a rising China framework by contextualising the political-ecology framework within each individual case study and serves as an analytical tool to unpack the impacts of a rising China in specific projects. In addition, Adeniran, DeBoom, Hensengerth, and Fam explore the roles that Chinese socio-political structures play in explaining the social, cultural, economic, experiential, and environmental impacts at the local level.

Adeniran, in his article focusing on the Sino–Nigerian water conservation project and examining technology transfer between Gansu and Kano cities, presents a positive case of a rising China. Adeniran looks at the Chinese Gansu-modelled agricultural/irrigation project in Kano and focuses on sharing best practices in agriculture by inferring from successes of a similar anti-desertification project already executed in Gansu, Northwest China. With funding from the Chinese government, this project replicated the successful use of water tanks to collect rainwater and managed to improve irrigation systems by training small-scale farmers in Nigeria on water conservation, anti-desertification strategies, ecological restoration, and forestation techniques. These methods in turn increased the food security of the surrounding communities and reduced the poverty level in these villages.

Adeniran goes beyond the immediate impacts of this Chinese project in Nigeria to look at the longer-term and trickle-down impacts of Chinese involvement on the African continent, especially in poverty alleviation and development issues. In this study, he found that capacity building in developing and transitioning countries is a key prerequisite for improving agricultural production, local livelihoods, and environmental quality. This can be achieved by empowering rural dwellers. This article also explores the possibility of upscaling a project that has been successful in one micro-location to other regions in the country.

What is interesting in this case study is that despite the positive outcomes in terms of water conservation and better farming techniques that increase food yield and food security, land degradation was evident due to increasing pressures on the land by the successful growth of crops, which increases the area of land converted to farmland. This exemplifies the complex interdependence of ecological systems and how a decision that might be deemed as a sustainable solution for one project will inevitably impact other parts of the ecosystem with differentiating outcomes. The question we will have to then ask is, "Does the environment always have to be the loser in the course of development?"

In DeBoom's article, she looks at Chinese investment into Namibia's uranium sector. The uranium sector presents additional challenges to both the Chinese and Namibian governments, due to the highly radioactive nature of the mineral. By disaggregating the different actors in the Husab uranium mine project through various phases of development, she successfully untangles the complex power relations between the Chinese and Namibian actors. Clearly an unequal partnership at first glance, with the Chinese government owning 90 per cent of the mine while the Namibian partners have 10 per cent, DeBoom investigates the indirect, longer-term impacts of enhanced political legitimacy for both governments, along with other positive social impacts such as higher living standards through better provision of health services. However, at the same time, she also notes that these positive benefits are unequally distributed among the different stakeholders.

DeBoom goes beyond the political-ecology framework, integrating it with science and technology studies and postcolonial studies within the overarching theme of "hybridity" to assess Chinese involvement in the extractive sector in Namibia. By doing so, she manages to unpack the rhetoric – for example, phrases such as "South–South solidarity" – surrounding this unequal relationship between the owners of the mines and delve into the actual direct and indirect immediate, mid-, and long-term impacts of Chinese engagement with the Namibian stakeholders. She correctly concludes by highlighting that it is ultimately the unequal distribution of benefits among the stakeholders that will deepen rather than reduce inequality.

The next two articles focus on Chinese hydropower projects in the Asian region, a topic close to my own heart and also one fraught

with huge complexity, due to the water, food, and energy nexus. Hydropower dams are back in the spotlight owing to a shifting preference for low-carbon energy generation and their possible contribution to mitigating climate change. At the forefront of the renaissance of large hydropower dams are Chinese companies, the builders of the world's largest dams at home and abroad, which are opening up opportunities for low- and middle-income countries. However, large hydropower dams, despite their possible developmental and carbon-reductive contributions, are accompanied by huge economic costs, profound negative environmental changes, and grave social impacts. Many factors contribute to the "successful" building and long-term management of a mega-hydropower project, ranging from rigorous environmental impact assessments (EIA), best-practice engineering, fair resettlement procedures, and just compensation, to thorough environmental mitigation strategies such as grievance and complaint mechanisms, CSR and, more recently, attention to social and local cultural practices.

In Hensengerth's paper, he situates the political-ecology framework of rising China in the realm of regional identity, social cohesion, and relations between different actors within communities. He argues that the actors driving the development in the Greater Mekong Subregion (GMS) have exacerbated social tensions through hydropower programmes that have weakened the social coherence of communities. In this paper, he explores the intimate relationship between water, culture, and identity and how that contributes to the regional identity of the communities through the lens of the political-ecology approach, by examining concepts of waterscapes and how one's identity is intertwined with the environment that one resides in. By looking into the various controls and uses of water resources in the GMS, Hensengerth demonstrates how Chinese involvement in the region, through building hydropower dams, exacerbates the unequal power relations and increases tensions and conflicts between different actors. He also describes how China ensures both its own control over the water resources and its own benefits from them, and illustrates how China is altering the community identities in the region.

Using the Lower Sesan 2 project as an example, Hensengerth not only describes the complex trade-offs between food security, fish biodiversity, local livelihood protection, and hydropower generation but, more importantly, elucidates how this nexus threatens the tradi-

tional way of life, identity making, and ultimately the regional cohesiveness of communities residing within the GMS. By virtue of their active engagement in the build-up of hydropower across Mekong countries, Chinese companies are key participants in this conflict. One of the biggest challenges Hensengerth presents in his paper is that these cultural issues have not been included in compensation policies, which typically incorporate assets that can be expressed in economic value, and that this challenge is not unique to the GMS but is, in fact, a global problem. How can the loss of cultural values, spiritual attachment and, ultimately, a person's/community's identity be compensated for?

Last, Fam's article uses the political-ecology approach to unpack the experiences of governments and displaced communities in Sarawak, Malaysia, in a case study of a Chinese-built dam – the Bakun Hydroelectric Dam. Fam goes beyond analysing the roles of various stakeholders, such as governments (Chinese, Malaysian, and Australian), builders, NGOs, companies, and local indigenous communities and their interests in this project, also looking at regional, national, and international politics that further complicate the situation. By examining the divergence of practices between a developed country (Australia) versus a rising power (China), this article examines the broader geopolitical dynamics in a localised hydropower project.

An important finding from Fam's research is that the presence of a Western actor (Australia, in this case) does ensure a degree of investment in the sustainability of long-term safeguards in the displaced communities. CSR has also been seen as an adequate tool to mitigate the negative impacts arising from increased Chinese involvement. Again, similar to Hensengerth's article, Fam alluded to the importance of history and culture for Sarawak's native communities, as they are tied intimately to rivers and the lands around them. Thus, Fam's findings reinforce, similar to the previous article, the idea that the Chinese-built dams, despite their merits in energy provision, are extremely disruptive and destructive to these riparian cultures.

To conclude, the everyday experience of encountering a rising China differs greatly from one case study to another. These are the results of local specifics such as geography, culture, socio-political structures, actors' interests, and levels of economic development, which contribute to the respective bargaining power of the various actors. In addition, varying experiences of development and percep-

tions of nature, in addition to cultural, social, and political structures in the Chinese context, will also directly impact the host context of Chinese investment. Examining how the Chinese companies behave or act in the home context will help to explain their interest and actions in overseas locations.

This topical issue presents the political ecology of rising China as a coherent and flexible framework to understand the global impacts of a rising China and enrich our understanding of the differentiating outcomes of its rise in Asia and Africa. By focusing on the longer-term and indirect impacts, we also find examples of both positive and negative outcomes of a rising China in areas of development, livelihood security, environmental protection, South–South technology transfer, identity, culture and agency, and food security. The findings in these papers demonstrate differential impacts of a rising China that are highly dependent on numerous local factors, ranging from the sectors that Chinese companies are investing in; the maturity of civil society and community leadership; the political alliances between Chinese companies and the local elites; the involvement of international institutions and actors in the local projects; the type of Chinese companies (private or state-owned); the type of investment partnership with local stakeholders; and the maturity of local institutions and regulatory frameworks and discourses, to mention a few.

At the same time, the framework also allows us to investigate the characteristics of a rising China by evaluating the interests of Chinese stakeholders. These interests, shaped by cultural, social, and political factors, determine their behaviours at home and subsequently their investment behaviours in overseas contexts. In addition, by delving into the modalities of investment, typologies of Chinese companies, historical experiences, and regulatory demands, we are able to add further nuance to the analysis of a very complex human–environment relationship that is oriented around multifaceted interactions between different stakeholders, structures, and institutions and between local, national, and international levels, producing very differentiated outcomes and impacts at these levels. As such, it provides us a way to proactively engage with Chinese actors and to co-create future solutions that will minimise negative impacts resulting from a rising China.

Last but not least, let us not forget the importance of local stakeholders and the vital role they play in terms of negotiating, implementing, mitigating, and enforcing both the positive and negative

impacts of a rising China. These actors similarly possess a certain amount of power to exercise agency and decide to either dance to or counter to the beat of the Chinese tune. By observing the moves between these two groups of actors, we will be better able to explain the global phenomenon of disparate outcomes of a rising China.

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Prof. May Tan-Mullins became the vice provost for Teaching and Learning at the University of Nottingham Ningbo China (UNNC) on 1 January 2018, where she is also a professor of International Relations and the director of the Institute of Asia and Pacific Studies. Her research interests are the political ecology of rising China, environmental and energy justice, poverty alleviation, and building resilience for the poorest and most vulnerable.
E-mail: <may.tan-mullins@nottingham.edu.cn>

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